

MicroStation Study
STATEMENT OF WORK

1.0 Introduction and Overview

The Federal Aviation Administration (FAA), Aviation System Standards (AVN) requires technical services to perform COTS business process analysis.

1.1 Background

AVN uses the CAD Package MicroStation J for the maintenance of its aeronautical charts and to support its business processes. AVN has automated all of its Radar Video Maps (RVM), Terminal Procedure Publications (TPPs), Airport Facility Directory (AFD) Sketches, Controller Charts, North Atlantic Route Chart (NARC), North Pacific Route Chart (NPRC), Gulf of Mexico Chart, Flight Case Planning Chart, Enroute Highs, and Enroute Low Charts using MicroStation J. MicroStation J is also used for the creation of quality control plots.

In house applications were developed by AVN's IT support to compile and maintain its products using MicroStation J. These applications use Visual Basic calls to place elements or read elements within MicroStation J. These applications include the Radar Video Map Translator, OMNI21, and the Digital Aeronautical Database System (DADS). DADS is currently undergoing a rewrite by AVN's IT support to interface with MicroStation V8 XM edition.

AVN relies on additional COTS software that runs on top of MicroStation J. Some of this software will work with MicroStation V8 but others need to be replaced with software that provides at least the same functionality. Software used by AVN includes IRASCB, MGE Projection Manager, Aeronautical Mapping System, GeoMedia Professional and IPLLOT.

AVN is heavily invested with customized applications and COTS software that runs on top of MicroStation J. AVN plans on moving forward with database driven charting using ESRI's COTS tools but contractor analysis is required to mitigate software and hardware risks associated with MicroStation J. AVN is in the process of updating its databases and needs technical services to analyze AVN's current MicroStation J dependencies. The contractor will provide recommendations on how AVN can move forward with its MicroStation V8 migration or recommend viable alternatives to its MicroStation J business processes.

1.2 Scope of Work

The contractor must provide technical services to perform a expert analysis, requirements analysis of AVN's MicroStation J business processes. The contractor must use this analysis in the preparation of in-depth documentation and the delivery and presentation of a final report. This report shall include formal recommendations for migrating these processes, applications and obsolesce COTS to MicroStation V8 or a viable alternative that fits in with AVN's strategic objectives. The study's emphasis should focus on areas that are not currently targeted for database driven charting.

1.3 Objectives

This SOW shall achieve the following specific objectives:

- AVN has an automation strategy to compile and maintain the Enroute Team's charts and the Terminal Team's publications. This study's objective is to determine recommendations for supporting AVN's Visual Chart Team, Radar Video Map Sub-Team and legacy applications and processes.
- The final report will be used to assist AVN with mitigating the risks with obsolesce software, moving forward with MicroStation V8 migration, and for further strategic planning.
- The final report's recommendations will assist with determining a COTS automaton strategy for AVN's Radar Video Map Program. The report must include recommendations for COTS that meets RVM's functional requirements. It also must provide a strategy for supporting the Radar Video Map Translator that creates the various Air Traffic Control (ATC) formats.
- The final report's recommendations will assist with AVN's decision on the future of AVN's OMNI21 application. Should the application be written to work with MicoStation V8, replaced with similar functionality using other COTS, or leverage AVN's database driven charting development.
- AVN's IT support is in the process of migrating the DADS application to interface with MicroStation V8 XM. This mitigates the shorter-term software and hardware risks but AVN needs recommendations on how to support this application for areas that are not currently targeted for database driven charting. Recommendations will include on how to integrate with AVN's database initiatives. Recommendations will provide a risk mitigation strategy

for possible delays in implementing database driven charting.

- The final report will include recommended alternatives to overlaying aeronautical data for the creation of the Visual Chart Team's quality control plots.
- The final report will recommend both short-term solutions given current database constraints such as the usage of the legacy Map Definition Language (MDL) format. It also will provide a foundation for supporting the longer-term business requirements.

1.4 Period of Performance

The period of performance is 15 weeks from the contract award.

2.0 References

AVN will provide the contractor any application specific user documentation to aid with the analysis.

3.0 Requirements

This section defines requirements in terms of tasks to be performed and the end results/deliverables that must be produced. Important compliance requirements are included with the task descriptions and deliverables.

3.1 Tasks

The tasks to be performed under this contract are described below in several categories. The contractor must be cognizant of all these task dimensions in order to perform them completely, correctly, and meet the government's expectations.

The contractor shall conduct the following tasks:

3.1.1 Task 1: Manage Project

3.1.1.1 Task 1, Subtask No. 1: Prepare Project Plan

Identify project expectations and prepare a project plan that includes project milestones and associated deliverables. The contractor will meet with the FAA Technical Officers Representative (TOR) not later than one week after Task Order (TO) award to delineate the purpose, goals, schedule, and methods of operation and expected outcomes for the project. Based on those discussions and meetings, the contractor shall prepare a draft project plan and submit the draft for approval.

3.1.1.2 Task 1, Subtask No. 2: Project Kickoff Meeting

A project kickoff meeting/teleconference/videoconference shall be held based upon a mutually agreed date at the FAA's Silver Spring facility to review the approved project plan.

3.1.1.3 Task 1, Subtask No. 3: Progress Reporting

The contractor shall provide weekly status reports to the TOR and COTR. The contractor shall also provide monthly cost financial reports, which must include the following.

- CLINS used during the month
- Hours billed to the CLINS
- Hours remaining on the CLINS
- Personnel who bill to each of the CLINS
- The amount of funding used during the reporting period, and the amount of the funds remaining on the contract.

All documents shall be provided in standard electronic format accessible to AVN as appropriate (Microsoft Office, HTML, PDF, email)

3.1.2. Task 2: Consulting Services

Consulting Services are required to analyze AVN's MicroStation J dependencies and perform a technology assessment on how these custom applications, COTS or processes can be migrated to either MicroStation V8 or an alternative.

3.1.2.1 Task 2: Subtask No. 1: Risk Assessment

The contractor as part of its analysis will review AVN's MicroStation J risk assessment to get a better overall understanding of the issues, reassess the risks, and determine if any risks have been overlooked.

3.1.2.2 Task 2: Subtask No. 2: Perform RVM COTS Analysis

The contractor must provide an expert analysis of AVN's Radar Video Map (RVM) program. RVM needs a COTS replacement for obsolete COTS that runs on top of MicroStation J. The minimum functional requirements include the ability to store projection parameters, readout latitude/longitudes, place elements by latitude/longitude and perform map projection conversions. The contractor will also need to evaluate and make recommendations for supporting AVN's Radar Video Map translator. This custom application uses MicroStation J and Visual Basic to read the design file's elements to create the various ATC formats.

3.1.2.3 Task 2: Subtask No. 3: Perform Custom MicroStation J Application Analysis:

The contractor must perform an analysis of AVN's custom applications that interface with MicroStation J. This includes the RVM Translator that was mentioned previously in 3.1.2.2, OMNI21 and the Digital Aeronautical Database System (DADS).

AVN uses OMNI21 to create MicroStation J design files from its legacy MDL format. OMNI21 is regularly used in the creation of quality control plots and for graphically viewing the aeronautical data stored within MDLs. The contractor must submit viable alternatives with the current database constraints or recommendations for modifying the application to interface with MicroStation V8.

The DADS application is currently being migrated to interface with MicroStation V8 XM but AVN needs an analysis to determine longer-term recommendations for supporting this functionality as AVN moves forward with its database initiatives and database driven charting.

3.1.2.4 Task 2: Subtask No. 4: Perform COTS Analysis

The contractor must perform an analysis of AVN's MicroStation J COTS Dependencies. The scope is limited to COTS software that is not compatible with MicroStation V8. AVN needs recommendations to replace its Projection Manager software and ability to support its stakeholders that use the Aeronautical Mapping System (AMS).

3.1.2.5 Task 2: Subtask No. 5: Research Alternatives

The contractor shall research and document alternatives for meeting AVN's requirements. AVN is open to leveraging its database driven charting effort but needs to mitigate the MicroStation J risks while this effort is in development.

3.1.2.6 Task 2: Subtask No. 6: Provide Recommendations

The contractor will advise AVN on possible solutions and make recommendations to mitigate MicroStation J risks, move forward with MicroStation V8 migration, and present alternatives that meet AVN's business requirements.

3.1.3. Task 3: Final Report

A final written report detailing all of the recommendations must be provided to the TOR for acceptance. The report must address the following.

- Recommendations for the tasks as defined with 3.1.2. Recommendations should include short-term solutions to ~~mitigate the risks with software that is approaching~~ the end of its system life cycle and recommendations to support AVN's longer-term database driven charting goals.
- Recommendations for acquiring any software to support these proposals.
- A presentation of the final written report at AVN. Discussion of the outcomes, recommendations, and related issues may be conducted with the AVN staff.

4.0 End Results/Deliverables

This section describes the products and tangible end results that are expected from each task contained in the previous section, including when applicable the use to be made of the deliverable.

4.1 List of Deliverables by Task

The following table provides a complete listing of the required deliverables by task. The table includes, Task No., Activity, Due Date and resulting deliverable.

Task	Activity	Due Date	Deliverable
Task 1 Subtask No: 1	Develop Project Plan (Draft) for review	2 weeks after award	Draft Project Plan
Task 1 Subtask No: 1	Submit Final Project Plan	3 weeks after award	Final Project Plan
Task 1 Subtask No. 2	Project Kickoff Meeting with stakeholders to review approved project plan.	3 weeks after award	Kickoff meeting
Task 1 Subtask No. 3	Create Project Assessment that includes summary, milestones and risks.	Weekly by COB Friday	Weekly Project Assessments
Task 1 Subtask No. 3	Create Progress Reports of financial data that include activities/costs.	Monthly 10 th	Progress Report of Financial data/

Task 2 Subtask No: 1	Update Risk List	5 weeks after award	AVN MicroStation Risk List
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Task 3	Submit a draft MicroStation Study report for review that includes formal recommendations.	14 weeks after award	Draft MicroStation Study
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Task 3	Submit a final AVN MicroStation Study.	15 weeks after award	Final AVN MicroStation Study
Task 3	Formal Study Presentation	15 weeks after award	Formal presentation of study

4.2 Progress/Compliance

The Government requires the following from contractors in order to monitor progress and ensure compliance:

- Weekly Meetings with FAA TOR (or less frequently if desired by TOR)
- Weekly Assessments and Monthly Performance Reports
- Outlines and Drafts.

5.0 Notes

5.1 Travel

6.0 Definition of Terms

Unless otherwise defined in the SOW, all terms and conditions shall be defined in the Contract.

AMS-	Aeronautical Mapping System
AVN-	Aviation System Standards
CO-	Contracting Officer
COTR-	Contracting Officer's Technical Representative
COTS-	Commercial off the Shelf
DADS-	Digital Aeronautical Database Systems
MDL-	Map Definition Language
MGE-	Modular GIS Environment
RVM-	Radar Video Map
SOW-	Statement of Work
TO-	Task Order